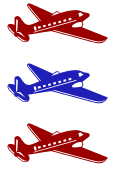




Dayton Pilots Club



May 2005

www.daytonpilotsclub.org

Next Meeting Wednesday, May 18

Dayton Wright Brothers Airport at 7:00 PM

B.D. Luckenbill, Editor

From the Editor

By Brad Luckenbill

This newsletter was intentionally printed in black and white instead of full color as previous issues. The cost of color printing is significant and the trustees elected to provide print copies in black and white while the color version will still be available for viewing on the website. However, if you would prefer to see the newsletter printed in color, then we need to hear from you. The club has paid for each printing in the past, but if we go back to color, it would be more cost effective to purchase our own color printer. If you have an opinion on this issue, please send it to me by email.



We had a nice turnout for the plane wash. The club wishes to thank all of those that participated and to the members that worked hard to make it work. The weather cooperated in spite of promises by the forecast to provide a steady wash and rinse. The strength of any organization is dependant on the participation of the membership. Given the quality of the day, it was a pleasant surprise to see somewhere around 16 members show up to help. Periodically, the crew chiefs will follow up with additional wash and waxing of the fleet as needed. Doing this work ourselves serves to allow for a close inspection of the cosmetic condition of the planes and save some funds for other improvements. A special thanks to Clem Gilliland for providing everything we needed for the plane wash and the nutritional sustenance to keep the workers happy.

Around the Hanger:

- ◆ A change in the combinations for the locks has been completed. The new combinations can be found in Schedule Master.
- ◆ This month there will be a safety meeting.
- ◆ We will be unable to insure the Mooney. The plane will be sold, we will be looking to sell both the Mooney and 62RP. The club will be looking for a suitable cross country plane to add to the fleet.

Pilot Safety

By Tim Smith, Safety Officer

VMC into IMC, or was it the Medications?

On November 26, 1999, at 10:49 a.m. Eastern Standard Time, the 56-year-old physician pilot, his wife, and daughter departed from Linden, New Jersey, on an IFR flight destined for Washington Dulles International. The weather observation for nearby Newark International Airport was 2.5 miles' visibility, with light rain and mist. Scattered clouds were reported at 600 feet, with a 1,300-foot broken ceiling. The temperature was 61 degrees Fahrenheit with a dew point of 59 degrees. It looked like a routine instrument flight in the V-tail Beech S35 Bonanza.

After departing Linden, the pilot contacted New York Departure Control and was instructed to turn left to a heading of 010 degrees and climb to 5,000 feet. A few seconds later, the controller revised the clearance and instructed him to maintain 2,000 feet. Thirty-four seconds after that the controller asked for a left turn to a heading of 270 degrees, to which the pilot did not reply. The controller reissued the heading, but there was still no response.

The controller made two more attempts to reestablish communications. After the second attempt the pilot responded, "I have a problem." The controller inquired about the problem and the pilot responded, "I had a gyro problem momentarily. It looks straightening now. I must have had water in the system." Twenty seconds after that the controller radioed, "Continue the right turn all the way around...correction, you're in a left turn now." The pilot responded, "Yes, sir...left turn climbing to niner thousand."

The controller corrected, "Stop your climb at two thousand, turn left, left turn heading two-seven-zero," and then asked if the pilot

Continued on Page 5

President:	Greg Halderman (937) 859-3642
Secretary:	Chester Harris (937) 657-3621
Treasurer:	Mike Nolan (937) 866-8280
Membership:	Kevin Chandler (937) 885-1395
Maintenance :	Bill Mervar (937) 258-1210
Safety Officer:	Tim Smith (513) 897-7729
Member Loans:	Tom Weber (937) 748-9084
Newsletter Editor:	Brad Luckenbill (937) 901-0060 bdponydoc@sbcglobal.net

Newsletter articles Due by May 31, 2005

Instructor's Corner

Excerpts taken from an article submitted by Norman Hignite: Tech Note 007, Cessna Pilots Association

TBO and Beyond Eleven Tips on the Care and Feeding of your Big-Bore Continental Engine

(Continued From April)

6. Use conservative power settings.

If you operate your engine at the high end of the envelope, you are trading performance for longevity. Your engine will last longer if you use more conservative power settings. This is especially true when it comes to turbo-charged engines.

Cruising at 65% power is an excellent trade-off. In exchange for the few knots you give up, you gain significant fuel economy, cooler engine temperatures, longer engine life, and a quieter cabin.

7. Operate oversquare!

The old saw about never allowing MP to exceed RPM/ 100 is bunk! Continental authorized cruise operation at 1 to 3 inches "oversquare" for most normally-aspirated engines, and allows 9 to 12 inches "oversquare" for most turbocharged engines. Check the cruise charts in your POH or obtain the Continental operator's manual for your engine. Operating at minimum RPM and maximum MP (within the allowable envelope) actually helps your engine last longer.

Cruise at the lowest RPM and highest MP that the book allows for the percentage of power that you desire. You usually have several possible RPM/MP combinations to choose from at lower altitudes in a normally-aspirated airplane, and at virtually all altitudes in a turbocharged airplane.

Low RPM operation provides numerous benefits: better cylinder compression, lower frictional losses, improved propeller efficiency. Cooler-running valves, lower EGTs and TITs, and a quieter cabin.

8. Maintain optimal CHTs (350-425F).

High CHTs are bad for your engine. The aluminum alloy used in your cylinder heads begins to lose its strength as the CHT rises above about 400F. Excessive CHTs over a long period of time can result in head cracks or even catastrophic head to barrel separations. Even though your CHT red line is 460F, you

Continued on Page 3

should by to keep your CHTs at or below 400F for normally-aspirated engines or 425F for tur-bocharged engines. Do this by opening cowl flaps, increas-ing airspeed reducing power, and/or enriching (listed in descending order of desirability).

Low CHTs aren't great, either. Cooler than optimum CHTs (as, in the low 300sF) can result in increased de-pos-its on spark plugs and exhaust valve stems. The latter will ultimately result in accelerated exhaust valve guide wear and a premature top overhaul. Try to keep your CHTs at 350F or more.

9. Keep baffle seals in tip top shape.

Flexible baffle seals are crucial to proper engine cooling. If any air is able to leak past the baffle seals (be-tween the rigid baffles and the cowling), the cylin-ders can develop serious hot spots. Inspect the baffle seals at every preflight, and immediately replace any seals that have deteriorated.

Baffle seals must always fold up/forward, never down/backward! Engine cooling requires that there be a high pressure area above the cylinders and a low pressure area below them. The baffle must be oriented so that this pressure differential presses them tightly against the cowl-ing. Any seals that fold downward or backward will al-low air to bypass the cylinders.

Black rubber baffle seal material is trash. It typically loses its sealing ability in just a few hundred hours. Always use silicone baffle seal material available from RAM (red) or Victor (blue). It will last to TBO or beyond

10. Fix exhaust leaks immediately.

Exhaust gas is incredibly corrosive. Small exhaust leaks turn into big ones amazingly fast Exhaust leaks of-ten occur at the cylinder exhaust ports where the exhaust riser flanges attach. Leaking exhaust quickly erodes the soft aluminum at the exhaust port, neces-sitating costly cylinder removal and reconditioning.

Exhaust leaks are easy to spot. They leave telltale red, orange, or yellow stains. Inspect for them every time you preflight. If you spot a leak (even a tiny one), get it fixed right away.

11. Lean aggressively (but prudently).

Most pilots operate their engine much too rich. The result is usually trouble: fouled sparkplugs, accel-erated exhaust valve guide wear, and stuck exhaust

valves.

Lean as aggressively as the book allows. For Conti-nental engines, lean right to peak EGT at cruise power settings of 65% or below. At 75% cruise, lean to 50F rich of peak. For cruise climb, lean to 125F rich of peak for best power and extra cooling. Above 75%, operate full rich — this is normally confined to takeoff or go around.

For turbocharged engines, limit TIT to 1600F (50 de-grees below red line). Do this by reducing RPM, re-duc-ing power, and/or enriching (listed in descending order of desirability).

Lean during all ground operations except for en-gine start. It is particularly important to lean for taxi and run up. Since EGT is usually low off scale at idle power, the best method is to lean for peak RPM at idle. You should see about a 50 RPM rise as you lean slowly. If you don't, your idle mixture is adjusted too lean tell you A & P.

Editors Note: The 182 will have a new engine shortly. For those that fly or plan to fly 9HS, particular care should be exercised as the new engine goes through the break in period and thereafter. Please make sure you are familiar with the techniques needed to protect the engine from overheating or shock cooling.



**Next Month's DPC Meeting
Wednesday, June 15, 2005
Dayton Wright Brothers Airport**

Minutes of April DPC Meeting

By Chester Harris

President Greg Halderman called the meeting to order at 7:05PM.

Chester read the minutes of the April 04, 2005 Trustee's meeting.

Greg Halderman reported that the officers and directors insurance for the new year was dramatically reduced in cost when our agent changed to Cincinnati Insurance for the coverage.

Greg provided an update on AOPA Club insurance.

We have never had to give the level of member detail they have requested for any previous quote.

AOPA and AIG insisted that they have to have all the requested data on every pilot. They also listed several restrictions, for example 1) a limit of 15 members per airplane, 2) No insurance on members over 75, and 3) no retractable coverage for any member over 72. The rates of Archer's & Cessna's would be approximately 40% higher than the current rates. As a result we will sell the Mooney and continue with the current coverage.

Trustee Reports

Member Loans - Tom Weber

Reported he will do the final tax return for WCPF and close it down after the tax season.

Newsletter - Brad Luckenbill

Encouraged members to email him information to add to the newsletter.

Membership - Kevin Chandler

Introduced a new member that had just signed up at the meeting

Safety - Tim Smith

Reported that there will be a safety seminar next month on collision avoidance. Tim said to double check the AOPA/FAA list for any medications you are taking. Our insurance will not pay if "illegal" drugs are present when an accident occurs. Tim asked that flight reviews and medicals be sent directly to him at his mail box rather than sending them in with the bill payments.

Website - Tom Dow

Nothing to report

Treasurer - Mike Nolan

Mike Nolan reported that we have money in the engine fund to cover the engine replacement. We were close to break even for the last year. We just received an Exxon bill for \$1700 that will alter that slightly. Mooney looks bad recently because of the prop overhaul. The DPC checkbook balanced for

the end of year. All the bills are paid. Engine cost for 759HS will prevent some capital gains taxes that would have been due on funds not invested by May.

Maintenance - Bill Mervar (Or Crew Chiefs present)

06W ~ It was reported that the landing light is out.

01U ~ New tire put on it.

78X ~ No report

2RP ~ No report

8NG ~ No report

9HS ~ Norm Hignite reported that he found metal in the oil at the last oil change. On further examination it was determined that a piece of one of an oil wiper rings from one of the pistons had broken off into the crankcase creating metal particles that ended the engine's useful life. We will install a factory remanufactured engine and get the plane back in service as soon as possible. May be out of service for a month.

Larry Scherr -

Nothing to report

Work continues on the project to update linkages between the QuickBooks billing software and an upgraded flying hours database.

General Session

Ron Williams asked what new airplanes were okay. Greg listed 182RG, Diamonds, Arrows, Dakotas as acceptable aircraft types. Greg said we don't want to be down to two Archers and that we will sell the Mooney now.

Clem noted that flying hour rates in Schedule Master need to be updated.

Meeting adjourned at 7:40 PM.

F L I G H T O P S	Aircraft	April Billable Hours & 888 Time			YTD Billable + 888 Time	
		2005	2004	Monthly 888 Time	2005	2004
	4201U	10.80	24.10	0.23	51.59	102.96
	4506W	13.92	23.93	0.30	55.97	82.99
	62RP	11.70	0.09	0.00	48.50	69.94
	738NG	18.70	16.10	0.20	41.70	38.60
	759HS	13.50	000	0.70	46.10	000
	8078X	18.30	13.80	0.20	67.80	85.50
	Totals	86.92	96.62	1.63	311.66	379.99

Continued from Page 2

was OK to navigate. The pilot responded, "I think I have a problem," and then requested a climb. The controller instructed the flight to maintain 2,000 feet and requested the current heading. The pilot responded, "Looks like zero-three-zero." The controller repeated the instruction to turn left to 270 degrees, but there was no response. The controller repeated the altitude and heading. Still there was no response. The controller then radioed, "Niner-Two-Mike, I need to be acknowledged please." The pilot replied, "I have a problem."

The Bonanza slammed into the southwest corner of the roof of an abandoned three-story brick building at about 10:53 a.m. Approximately 50 percent of the roof and 50 percent of the third floor were consumed in the post-crash fire. The debris path continued north along the left side of a residential street, crossing a road, a parking lot, and then another road before ending some 760 feet from the initial point of impact. There were no survivors on the aircraft. Two people on the ground received serious injuries (one later died), and 25 received minor injuries. Eighteen buildings received varying degrees of damage ranging from broken windows to structural damage. Three of the buildings were condemned and demolished. The city of Newark estimated the property damage at \$1.15 million. At least eight automobiles were damaged or destroyed.

Radar data showed the Bonanza heading east at approximately 900 feet when the pilot first reported a problem. Over the next two minutes, the ground track changed from east to north, to north-east, to northwest, and then back to north. In the last 30 seconds, the target attained a maximum altitude of 2,800 feet and airspeed of 161 knots before beginning a descent that reached 10,000 feet per minute.

The pilot held an airline transport pilot certificate with an airplane single-engine land rating and a commercial certificate for airplane multiengine land, single-engine sea, and glider. An active instrument flight instructor, he was known to participate in type-club training programs to instruct other pilots. His second class medical certificate had been renewed on November 1, 1999. On the medical application, the pilot reported 5,800 hours of total flight experience, with 120 hours in the past six months. His logbook showed 1,308 hours of actual instrument flight. He passed a flight review in a Piper PA-28 and a flight check for his single-engine ATP certificate eight months earlier. The pilot was, by reputation an experience, well-qualified and conscientious.

Examination of the flight instruments and vacuum pumps yielded some interesting findings. The engine was operating at the time of impact, and while both the primary and standby vacuum pumps had separated from their engine mounts, neither unit revealed pre-impact failure. Continuity of the vacuum system plumbing could not be verified because of impact damage. It appears that the primary vacuum pump was operating. The Bonanza was equipped with a backup vacuum system, and when the standby clutch assembly was examined, the engine side of the clutch displayed rotational scoring consistent with a momentary impact, but the vacuum pump side did not, indicating that it probably was not activated. Electrical and mechanical continuity for the clutch assembly was verified.

Three gyros and two gyro cases were also inspected. If there is scoring on the case or on the gyro itself that usually indicates the gyro was spinning at the time of impact and then contacted the case during the crash sequence, leaving a mark. If there are no score marks, that generally indicates the gyro was not operational at impact. The vacuum-driven gyro from the attitude indicator displayed rotational scoring. No rotational scoring was observed on the horizontal situation indicator's (HSI) vacuum-driven gyro or on the turn coordinator's electric-driven gyro. Static marks consistent with no or little rotation were observed on the HSI gyro housing. The turn coordinator gyro housing was not recovered.

A plausible interpretation is that the attitude indicator was working, but the heading indicator and the turn coordinator were not. This is not the typical IFR training scenario. Usually, it is assumed that the vacuum pump has failed, leading attitude and heading indicators to gradually fail. The electrically driven turn coordinator, or turn needle, is considered the most reliable, and the pilot is expected to transition to that as soon as a fault is recognized to maintain lateral control. This is a typical instrument power configuration, but some aircraft may have electrically driven heading or attitude gyros and, although rare, may have a vacuum turn needle. The gyro flight instruments are required to have a split source of power to assure some redundancy. In the real world, the failure is subtle as the gyros spin down slowly, and it can be quite confusing to determine which instrument or instruments are inoperative.

Continued on Page 6

Continued from page 5

It is possible but extremely unlikely for two independently powered systems to fail simultaneously. It is pure speculation on my part that possibly the turn coordinator may have been inoperative before the flight. Regardless, the pilot was presented with a very difficult task early in the flight as he was transitioning to the IMC environment. The wandering heading and non response to ATC indicate that he was mentally saturated with sorting out the problem. At this point, the probable accident cause would have been evident—spatial disorientation because of instrument failure. However, the pilot's autopsy found that he had consumed large doses of a prescription barbiturate drug. According to private medical records during a medical examination in 1976, it was noted that the pilot suffered from migraine headaches. He was using Fiorinal, which contains the barbiturate Butalbital, aspirin, and caffeine, to control the pain.

In 1989, the pilot called a nurse complaining of "severe migraine" headaches and stated that Tylenol or aspirin provided no relief. He "refused to come in for an evaluation and just wanted a refill that would last until morning when he could call a physician." At that time, he was taking one Fiorinal every four to six hours. Pharmacy records show that the pilot was provided with more than 6,000 tablets of Fiorinal or the generic equivalent from 1992 to October 1999. According to *The 1999 Physician's Desk Reference*, "Fiorinal...is indicated for the relief of the symptom complex of tension (or muscle contraction) headache. Caution is required because Butalbital is habit-forming and potentially abusable.... The most frequent adverse reactions are drowsiness and dizziness."

On the pilot's last FAA medical application, he stated he was not taking any prescription or nonprescription medication, and that he had never suffered from severe or frequent headaches. All prior FAA medical applications contained the same statements. According to the *FAA Guide for Aviation Medical Examiners*, a history or presence of any of the following conditions would preclude the issuance of a medical certificate: migraine headaches, migraine equivalent, cluster headaches, chronic tension headaches, or conversion headaches. In addition, the publication stated that "pain, in some conditions, may be acutely incapacitating. Chronic recurring headaches or pain syndromes often require medications for relief or prophylaxis, and in most instances, the use of such medications is disqualifying because

they may interfere with a pilot's alertness and functioning. The examiner may issue a medical certificate to an applicant with a long-standing history of headaches if they are mild, seldom requiring more than simple analgesics, occur infrequently, and are not incapacitating, and are not associated with neurological stigmata."

Would the pilot have been capable of handling the emergency if he had not taken the drug? That is unknown. As a medical doctor he would have easier access to prescription medicines than the average pilot. It could be debated that the drugs had little or no effect on his abilities since he had been taking them for so long that his system had adapted. After all, he had flown for 23 years without incident.

It is undeniable that lying on the medical application and continuing to fly with a potentially debilitating condition—using prohibited medication—are wrong. It puts a blot on an otherwise exemplary personal and flying career. The accident might well have happened without any medical transgression, and that must be kept in mind. But that negligence adds to the sensationalism. Media-attracting incidents like this provide strong ammunition for those who would further restrict general aviation.

Safety meeting May 18th: "Collision Avoidance"

